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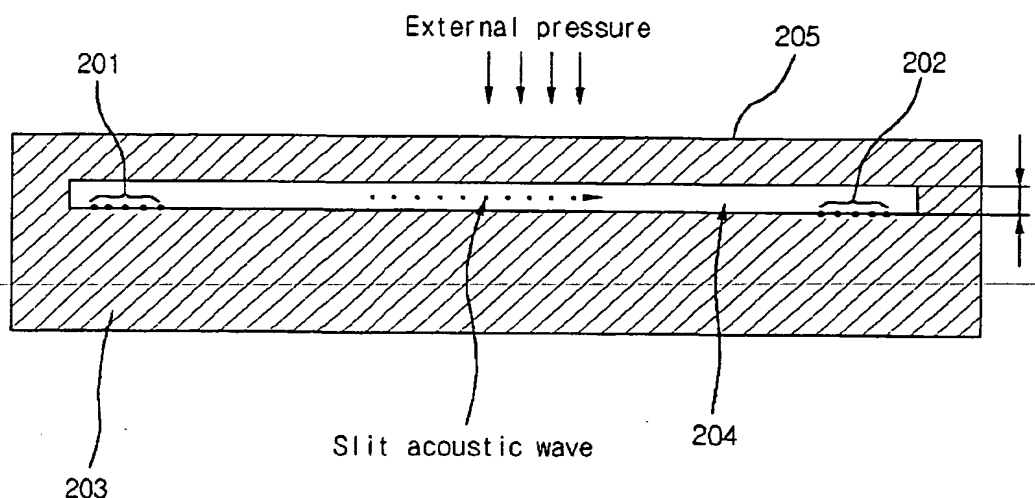
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(54) Title: **SAW SENSOR DEVICE USING SLIT ACOUSTIC WAVE AND METHOD THEREOF**



(57) Abstract: The present invention discloses an SAW sensor device using a slit acoustic wave and a method thereof. The SAW sensor device using the slit acoustic wave includes a piezoelectric medium having a thin membrane at its one portion, a medium at the other portion, and a narrow slit which the slit acoustic wave passes through at its inside, an input IDT formed at the outer portion in the narrow slit of the piezoelectric medium, for transducing an electric input signal into the slit acoustic wave, and an output IDT formed at the outer portion opposite to the input IDT, for receiving the propagated slit acoustic wave and transducing the wave into an electric signal, whereby an external pressure transmitted to the device is sensed. The SAW sensor device using the slit acoustic wave and the method thereof can obtain intensity of the external pressure and viscosity and dielectric permittivity of liquid passing through the narrow slit by using correlations of frequency and velocity shifts of the slit acoustic wave generated in a resonator of the narrow slit.

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